

MATERIALS FOR A FLORA OF TURKEY XXVI: NEW TAXA OF WOODY ROSACEAE

KAZIMIERZ BROWICZ*

ABSTRACT. *Pyrus hakkarica* Browicz, *P. anatolica* Browicz and *Crataegus davisii* Browicz are described from Turkey; there are new subspecies or varieties in *Amygdalus*, *Cerasus*, *Pyrus*, *Malus*, *Amelanchier* and *Crataegus*.

Amygdalus trichamygdalus (Hand.-Mazz.) Woronow in Bull. Appl. Bot. Pl. Breed. 14: 49 (1924-1925).

var. ***elongata*** Browicz, var. nov.

Drupae elongato-ovoideae, magis compressae, ad 30 mm longae, 20 mm latae. *Putamen* esulcatum, apice acutiusculum, recurvatum.

Turkey. C10 Hakkari: nr. junction of the Van-Hakkari/Yüksekova roads, 1700 m, vi 1966, *Davis* 44651 (holo. E). C9 Hakkari: Zap gorge, 23 km from Hakkari to Van, 1300 m, vi 1966, *Davis* 45487.

Amygdalus carduchorum Bornm. in Beih. Bot. Centralbl. 58B: 257 (1938).

subsp. ***serrata*** Browicz, subsp. nov.

Folia plus minusve profunde glanduloso-serrata.

Turkey. C9 Hakkari: Cilo Da., 2300 m, viii 1954, *Davis* & O. Polunin, D. 23947. C10 Hakkari: Sat Dag, between Vargözü and Sat Gölü, 2400-2500 m, vi 1966, *Davis* 45522 (holo. E).

The typical subspecies (*carduchorum*) is unknown in Turkey; it occurs in northern Iraq and in Iran. Its leaf margins are entire or some leaves may be at the most remotely and obscurely serrulate.

Cerasus incana (Pall.) Spach in Ann. Sci. Nat. ser. 2, 19: 126 (1843).

var. ***velutina*** Browicz, var. nov.

Ovarium velutinum; hypanthium puberulum. *Folia* utrinque pubescentia.

Turkey. B5 Kayseri: Ali Dag, Talas, 1400 m, II v 1933, *Balls* 239 (holo. E; iso. K).

Cerasus mahaleb (L.) Miller, Gard. Dict. ed. 8: no. 4 (1768).

var. ***alpina*** Browicz, var. nov.

Folia ad 25(-30) mm longa, 15(-20) mm lata, petiolata, petiolis ad 10(-12) mm longis. *Drupa* ad 6 mm longa, 4 mm lata.

Turkey. B6 Maraş: distr. Göksun, Binboga, in ravine on NE side of Işık Da., 1900 m, vii 1952, *Davis*, *Dodds* & *Çetik*, D. 20067. C5 Adana/Niğde: Ala Dağ, 2100 m, 7 ix 1938, *Ellenberg* 535 (holo. B).

* Institute of Dendrology and Kornik Arboretum, Polish Academy of Sciences, Kornik near Poznań.

This variety differs from the typical one in having smaller leaves and fruits; it presumably represents a montane form of *C. mahaleb*, which in its typical form occurs in Turkey up to 1700 m, while var. *alpina* grows between 1900 and 2100 m.

Pyrus boissieriana Buhse in Nouv. Mem. Soc. Nat. Mosc. 12: 87 (1860).

subsp. ***crenulata*** Browicz, subsp. nov.

A typo foliis crenulatis differt.

Turkey. C3 Antalya: 17 km S of Serik, 16 viii 1959, *M. & D. Zohary* 3092 (holo. HUI).

The only Turkish *Pyrus* having fruits with a deciduous calyx. Its association with *P. boissieriana*, which occurs in the Talysch and northern Iran and is characterised by serrate leaf margins, has to be considered as provisional.

Pyrus syriaca Boiss., Diagn. ser. 1, 10: 1 (1849).

var. ***microphylla*** [Zohary ex] Browicz, var. nov.

Folia ad 3.5 cm longa, petiolata, petiolis laminae aequilongis.

Turkey. C3 Konya: env. of Beysehir, fields, 17 viii 1959, *M. & D. Zohary* 2173 (holo. HUI). C4 Içel: 32 km from Mut to Karaman, 1400 m, v 1965, *Coode & Jones* 938.

Pyrus hakkarica Browicz, sp. nov.

Species nostra *P. syriacae* affinis est, a qua tamen foliis dimorphis multo latioribus differt.

Arbor humilis, ramis spinescentibus, ramulis junioribus glabris, brunnescentibus, vetustioribus griseo-brunneis. *Lenticellae* numerosae, parvae, pallidae. *Folia* ad 7 cm longa, 4.5 cm lata, dimorpha; altera late ovata basi subcordata vel subtruncata, vix tantum longiora quam lata, altera ovato-elliptica, basi rotundata ad duplo longiora quam lata. *Lamina* utrinque glabra, viridi, apice obtusata vel vix acuminata, crenato-serrata vel manifeste serrulata, serratulis apice callosis, petiolata, petiolis 2.5–3 cm longis, glabris. *Flores* ignoti. *Fructus* singuli vel bini-terni, ad 3 cm longi, anguste pyriformes. *Pedunculus* fructifer 3–5 cm longus, crassus, glaber.

Turkey. C10 Hakkari: 5 km from Şemdinli to Yüksekova, 1550 m, 16 vi 1966, *Davis* 45018 (holo. E). C9/10 Hakkari: Zab gorge, viii 1954, *Davis & O. Polunin*, *D.* 23872.

An endemic species occurring in SE Anatolia, and possibly at a distance from Kurdistan in south-western Anatolia in prov. Muğla, Baba dağı, above 1200 m, vii 1947, *Davis* 13668; however the specimen is incomplete and does not permit a definite diagnosis. *P. hakkarica* presumably gives hybrids with *P. syriaca* which is indicated by the herbarium specimen collected in SE Anatolia (*Davis* 45016). This species is also similar to *P. zangezura* Maleev from Soviet Armenia.

***Pyrus anatolica* Browicz, sp. nov.**

Species nostra *P. elaeagrifoliae* subsp. *kotschyanae* affinis est sed foliis minoribus apice basique rotundatis supra parcius pubescentibus differt.

Arbor? *Gemmae* ovato-elongatae, acutae, glabrae vel squamae tantum inferiores vix albido-pilosae. *Ramuli* annotini ignoti, vetustiores glabri, nitiduli, lenticellis parvis albis tecti. *Folia* 3–4 cm longa, 2.5–3 cm lata, orbiculari-elliptica ad late elliptica, apice basique rotundata, vel apice acutiuscula, integerrima vel apicem versus subconspicue crenata, supra initio laxe villosa, dein glabrescentia, sed non glabra, subtus dense albo-villosa. *Flores* ignota. *Fructus* c. 2–3 cm longi, anguste pyriformes. *Sepala* in fructibus persistentia, utrinque tomentosa. *Pedunculus* fructifer 1.5–2 cm longus, crassus, albo-pubescent vel subglaber.

Turkey. B2 Uşak: 7 km N of Uşak, c. 1000 m, 18 vii 1962, *M. & D. Zohary* 6315 (holo. HUI).

An endemic species, known only from the type specimen. It appears that it is a selected triple hybrid. From *P. communis* it has inherited indistinctly crenate leaves, from *P. amygdaliformis* a rounded leaf apex, and from *P. elaeagrifolia* the leaf pubescence.

***Pyrus salicifolia* Pallas, Reise 3: 734, t. N, f. 3A, B (1776).**

var. **serrulata** Browicz, var. nov.

A typo foliis serrulatis differt.

Turkey. C10 Hakkari: Bacirge, 1700–1800 m, vi 1966, *Davis* 45281 (holo. E); 10 km from Bacirge to Yüksekova, 1900 m, vi 1966, *Davis* 45190.

An endemic variety.

***Malus sylvestris* Miller, Gard. Dict. ed. 8: no. 1 (1768), subsp. *orientalis* (A. Uglitzkich) Browicz.**

var. **microphylla** Browicz, var. nov.

Folia ad 4.5 cm longa, 12 mm lata.

Turkey. A5 Amasya: Sulucure, about 30 km NW of Amasya, forest remnants, 630 m, 10 vii 1963, *M. Zohary* 10713 (holo. HUI).

***Amelanchier parviflora* Boiss., Diagn. ser. 1, 3: 9 (1843).**

var. **dentata** Browicz, var. nov.

Folia apice paucidentata.

Turkey. C2 Antalya: E of Avlan Gölü, 20 km SSE of Elmali, 1400 m, vii 1964, *Jackson* 5109. C2/3 Antalya: Elmali to Finike, vi 1966, *Alava & Bocquet* 5240. C3 Antalya: distr. Gebiz, Bozburun Dağ, near Taşlı Yayla, 1700 m, 26 vii 1949, *Davis* 15598 (holo. E; iso. K). Kargı Çay, nr. Taşatan, 900 m, viii 1947, *Davis* 14476.

The typical form of this species has leaves with entire margins.

***Crataegus davisii* Browicz, sp. nov.**

C. pentagyno similis est, sed foliis cuneatis, in petiolum sensim abeuntibus differt.

Frutex? *Rami* juveniles cinereo-velutini, aestate cinerei vel brunneo-cinerei. *Spinae* desunt vel probabiliter rae. *Folia* glabra vel supra secundum

nervos sparse pilosa, subtus initio villosa, dein glabrescentia, glabra vel secundum nervos tantum pilosa. *Folia* ramorum floriferorum plerumque trilobata, ad 4 cm longa, 3.5 cm lata, ovata vel rhomboideo-ovata, cuneata vel basi anguste cuneata; folia ramorum sterilium ad 6 cm longa, 5.5 cm lata, saepe quinquelobata, petiolis 2-4 cm longis, initio pubescentibus, dein subglabris. *Corymbi* 15-25-flori, pedunculis et pedicellis velutinis. *Calyx* albo-villosus, ad 4 mm longus, dentibus brevissimis (ad 1 mm longis), triangularibus ac reflexis. *Styli* in numero 4-5. Petala ac fructus ignota. *Fl.* Majo-Junio.

Turkey. C10 Hakkari: 45 km from Yüksekova to Şemdinli, 1750 m, 15 vi 1966, Davis 45168 (holo. E; iso. K).

This species is only known from the type specimen. Records of *C. pentagyna* Waldst. & Kit. from N Iraq (*Fl. Iraq* 2: 117, 1966) may refer to this species since both come from the same phytogeographical region; true *C. pentagyna*, on the other hand, belongs to the Hyrcano-Euxine element.

***Crataegus orientalis* Pallas ex Bieb., Fl. Taur-Cauc. 1: 387 (1808).**

var. ***obtusata* Browicz, var. nov.**

Lobis latae et breves, apice rotundatae, integerrimae vel minuti dentatae. Turkey. A4 Zonguldak: Karabük to Kel Tepe road, 450 m, vi 1967, Tobey 1910 (holo. E). Çorum: 10 km E of Çorum, 1200 m, vii 1963, M. Zohary 297 (HUI). A5 Kastamonu: Tosya, Kaiseri dere, vi 1892, Sintenis 4464 (G).

A very characteristic variety restricted to N Anatolia, possibly deserving to be recognised as a separate species.

***Crataegus aronia* (L.) Bosc. ex DC., Prodr. 2: 629 (1825).**

var. ***dentata* Browicz, var. nov.**

Folia in apice late dentata vel cum lobis brevis et latis.

Turkey. C1 Muğla: d. Marmaris, Bayir, 15 iv 1965, Davis 41136 (holo. E).

A variety only known from the type specimen. In contrast to var. *aronia*, which is characterised by leaves with very variable lobes (in particular in the variable depth of the sinuses and width of lobes), this variety has lobes in the form of wide and short teeth or lobes only in the upper part of the leaf with their tips pointing upwards.

var. ***minuta* Browicz, var. nov.**

Folia et inflorescentia parvula, ad 15 mm longa.

Turkey. C2 Antalya/Muğla: summit 45 km W of Elmali, 1200 m, vi 1961, Stutz 1512. C4 İçel: Mut, Magras Dağ, 1100 m, v 1965, Coode & Jones 750. C6 Hatay: 8 km from Belen, towards Antakya, c. 600 m, 6 v 1965, Coode & Jones 521 (holo. E). Maraş: Akher Dag, Maraş to Zeytun, 1100 m, v 1934, Balls 991.

New combinations in the woody Rosaceae will appear in the Flora of Turkey, vol. 4. I am grateful to the directors of the following herbaria for the loan of specimens: B. E, G, HUI, K.